

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

REPLY BRIEF FOR THE APPELLANTS

Ex parte NAKAJIMA et al.

FIBER REINFORCED PLASTIC PIPE AND POWER TRANSMISSION  
SHAFT EMPLOYING THE SAME

Serial Number: 10/058,064  
Filed: January 29, 2002  
Appeal No.:  
Group Art Unit: 3754  
Examiner: James F. Hook

Submitted herewith is a Reply Brief. In a March 22, 2007, Supplemental Examiner's Answer, it was asserted that the Supplemental Appeal Brief filed October 18, 2006 did not overcome the rejections, and that the rejections should be sustained.

While disagreeing that the rejections should be sustained, Applicants believe that the attached Reply Brief overcomes any such rejections. Please charge any fee required with respect to this paper, or overpayment to our Deposit Account No. 01-2300, **referencing docket number 100725-00070**

Respectfully submitted,



---

Tarik M. Nabi  
Agent for Appellants  
Registration No. 55,478

Customer No. 004372  
AREN'T FOX, PLLC  
1050 Connecticut Avenue, N.W., Suite 400  
Washington, D.C. 20036-5339  
Tel: (202) 857-6000  
Fax: (202) 638-4810  
Date: May 22, 2007



Docket No.: 100725-00070  
Serial No. 10/058,064

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

NAKAJIMA et al.

Art Unit: 3754

Application No.: 10/058,064

Examiner: James F. Hook

Confirmation No.: 3685

Filed: January 29, 2002

Attorney Dkt. No.: 100725-00070

For: FIBER REINFORCED PLASTIC PIPE AND POWER TRANSMISSION  
SHAFT EMPLOYING THE SAME

**REPLY BRIEF**

Date: May 22, 2007

This is an appeal from the action of the Examiner dated August 11, 2004, finally rejecting claims 1-21, all of the claims pending in this application, as being unpatentable over certain prior art under 35 U.S.C. § 103 and also rejecting claims 1, 3 and 6 as being anticipated by certain prior art under 35 U.S.C. § 102.

Claims 1, 3 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Yates et al. (U.S. Patent No. 4,171,626); and Claims 1-21 are rejected under 35 U.S.C. § 103(a) as being obvious Nakajima (U.S. Patent No. 6,409,606) in view of Yates et al.

The Examiner, in his March 22, 2007 Answer, argues that the specification does not clearly set forth what is meant by the term “spinning” and that the yarn set forth in Yates can be considered to be spun. However, Appellant respectfully disagrees for the following reason.

The Examiner indicates that the term “spinning” means to “draw out and twist fiber into a yarn or thread” or “to form a thread by extruding viscous rapidly hardening fluid” and relies on a dictionary definition for his argument(Examiner’s Supplemental Answer, page 6, lines 1-4). The Examiner further asserts that such “spinning” is inherent to the teachings of Yates. In fact, as indicated in the Specification at, for example, page 20, lines 1-7, the FRP pipe 12 is spun to align its fiber bundles in the longitudinal direction of the FRP pipe 12. Accordingly, such alignment of the fiber bundles in the longitudinal direction of the FRP pipe does not correspond to the Examiner’s dictionary definition and is not inherent to the teachings of Yates because the alignment of the fiber bundles in a longitudinal direction allow the full use of the mechanical properties of the fibers used for the FRP at maximum efficiency, which Yates does not teach or suggest. As a result, Yates does not disclose or suggest both pultrusion and spinning steps. Accordingly, Yates fails to disclose or suggest the features of independent claims 1 and 2, and of their dependent claims.

Additionally, Yates et al. fails to disclose that a fiber reinforced pipe (FRP) is inserted into a metal pipe. In opposition to Yates et al., the present invention discloses that the FRP pipe is inserted into the metal pipe, as recited in independent claim 2. Although the Examiner admits as such (page 7, lines 7-12) and relies on Nakajima to disclose or suggest this feature, the Examiner does not indicate where in Nakajima is a

teaching of the FRP pipe being inserted into the metal pipe. In fact, a closer examination of Nakajima reveals that Nakajima could not be combined with Yates in order to disclose or render obvious this feature because the pipe in Yates does not have a slit provided in the longitudinal direction such that the FRP can be inserted into the metal pipe, as recited in independent claim 2.

Furthermore, Appellants respectfully submit that the cited prior art does not teach or suggest a pipe subjected to both a pultrusion process and containing a fiber bundle that has been spun.

Yates et al. actually teaches that the “various layers can be applied in the appropriate position and configuration by filament winding, tape wrapping, tube rolling, or pultrusion” (col. 6, lines 26-30, *emphasis added*). The Examiner asserts that because Yates teaches the bundles formed by the fibers are provided “with a twist,” that Yates teaches both pultrusion and spinning. However, as indicated above with respect to the term “spinning,” Yates fails to disclose or suggest this feature, and the “twist” referred to by the Examiner does not correspond to the claimed spinning step, as discussed above. Thus, Yates fails to disclose or suggest both a pultrusion step and a spinning step. Nakajima also does not teach or suggest both pultrusion and spinning steps. Appellants respectfully submit that the presently claimed invention would not have been obvious over the combination of Nakajima et al. and Yates et al.

For at least the above-discussed reasons, Applicants submit that claims 1 and 2 would not have been obvious over Nakajima et al in view of Yates et al.

The final rejections of claims 1, 3 and 6 and of claims 1-21 being in error, as set forth above and in Appellant’s Brief filed on October 18, 2006. Therefore, it is

respectfully requested that this honorable Board of Patent Appeals and Interferences reverse the Examiner's decisions in this case and indicate the allowability of claims 1-21.

In the event that this paper is not considered timely filed, Appellants respectfully petition for an appropriate extension of time. Any fees for such extension, together with any additional fees which may be due with respect to this paper, may be charged to Deposit Account No. 01-2300, making reference to attorney docket number 100725-00070.

Respectfully submitted,



---

Tarik M. Nabi  
Registration No. 55,478

Customer No. 004372  
AREN'T FOX PLLC  
1050 Connecticut Avenue, N.W.,  
Suite 400  
Washington, D.C. 20036-5339  
Tel: (202) 857-6000  
Fax: (202) 638-4810